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AUTHOR Roberts, Robbie B.
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ABSTRACT

This research review sought to discover the forms of family verbal interaction that nurture language development in infants and toddlers, the function of different family members in this process, and the role of environmental factors in language development. Results indicate that speech to a child is significantly different from speech to an adult. When speaking to infants and toddlers, adults often use coaction, alternation, prompting, imitation, repetition, and labeling in their interactions. These features tend to change as the child acquires language and may include the expansion of utterances as the child begins to talk. The review also found that not only mothers and fathers, but adults in general, contribute to the language acquisition of children through the use of features that simplify language. Interactions with older siblings may also contribute to language acquisition, but their interactions are less effective than those of adults. The results suggest that infants and toddlers should interact as much as possible with adults to help facilitate the children's language development. (MDM)

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# Nurturance of Infant and Toddler Language: Verbal Interactions in the Home Setting

Robbie B. Roberts

University of Alabama at Birmingham

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Abstract

The features related to language acquisition in infants and toddlers as they interact within the home setting were investigated. The majoritiy of the studies included consist of child-adult dyads interacting in the natural setting of the home or toy manipulation situation. The results indicate that speech to the child is significantly different from speech to an adult. Features considered to be intuitive in nature to the adult communicator and which foster language acquisition in young children were examined.

# Nurturance of Infant and Toddler Language: Verbal Interactions in the Home Setting

The most heated debates concerning development in humans centers around the issues of whether development occurs due to natural, innate factors or nuturance from within the environment. The study of language development is not without exception. B. F. Skinner (1957) in his book, Verbal Behavior, argued that children learn language through imitation of the language spoken around them and the reinforcement they receive from attempting such language. It is true that adults are models of spoken language for children. Adults also praise children for their attempts and mastering of language. However, other researchers have argued that language cannot be simply learned through imitation and reinforcement.

Noam Chomsky (1958) presented strong argument against language being simply acquired through imitation of the adult model. In his later work, Language and Mind, Chomsky (1972) hypothesized the existence of a language acquisition device (LAD), which he feels is the innate language component in humans. The LAD is given credit for providing the child with all the grammatical rules and information initially needed.

Piaget (Piaget in Piattelli-Palamarini, 1980) viewed Chomsky's explanation of language innateness as an extremely complex task and instead felt that the beginnings of language could be explained by constructions which take place during the sensorimotor stage of development. Such constructions suggest an interaction of both nature and nurture in the acquisition of language in humans.

In considering the many factors related to the acquisition of language in infancy one of the first influences which comes to mind is the affect which the home or care-giving environment has upon the child. The purpose of this exploratory study is to examine factors which result in nurturance of language development in infants and toddlers in the home setting. Special emphasis will also be placed upon the influences brought on by those closest to the child during these early years of development.

This review of research was conducted to seek the answer to the following questions: What are the forms of verbal interaction taking place in the home setting which nurture language development? Are there members in the family who are more likely than others to nurture language development in infants and toddlers? What other factors exist in the home setting which may also be influencial in nurturing language development in infants and toddlers?

Studies were chosen because of their compatibility of method. The method used in most studies consist of observations in the home setting in which infants and mothers or other family members were involved in natural everyday interactions with each other and or manipulating toys in a natural manner.

## Nurturing Verbal Forms in the Home Setting

### Intuitive Parental Speech

Studies of infant-parent dyads consisting of infants as young as birth to three months of age reveal that parental speech seems to be rather intuitive and characteristic across cultures. For example, Morikawa, Shand, and Kosawa (1988), in their home observations of 20

American and 20 Japanese mother-infant dyads, found that although there were definite cultural differences in the manner in which Japanese and American mothers spoke with their prelingual infants, several common factors were also evident. The study found that mothers produce many utterances using questions and shortened sentences, and produce many utterances that refer to the infant or that have no apparent reference. Further findings revealed that mothers are not information-oriented in their verbal behavior towards 3-month-old infants.

The microanalysis of videorecords containing parent-infant interactions by Papousek & Papousek (1986) revealed intuitive forms of parental behaviors which parents carry out unknowingly. Several intuitive parental interventions support the establishment of visual contact as well as support vocal imitations and vocal play in infants. This study also revealed that parents are not information-oriented in their verbal behavior. Implications suggest that parental intervention which results in infants being repeatedly exposed to stimulation which activates integrative processes may result in more efficiently organized learning and cognition.

**Coaction and Alternation**

In addition to parental interactions with prelingual infants revealing common factors and intuitive forms of parental behavior, other studies describe developmental trends in vocalization patterns across the first year of infancy. In the case study of a middle class, white, male infant from three-and-a-half months to thirteen-and-a-half months of age, Kilbourne & Ginsburg (1982) note

the occurence of two structurally distinct modes of vocalization in the infant-parent pair. These modes of vocalization suggest a transition in parental-infant preverbal interactions which shift from coaction to alternation.

Coaction appears from birth to about three months in which infant-parent vocalizations overlap. From three months to four-and-a-half months, a transition occurs in which alternation overcomes coaction activities. Alternation occurs when the infant vocalization occurs between the offset of the mother's initial vocalization and the onset of her next vocalization with no overlapping. According to Kilbourne & Ginsburg (1982), alternation emerged as the predominate vocalization pattern around four-and-a-half months of age.

**Parental Expansion of Infant Utterances**

As the first birthday approaches and babies begin to make verbal utterances, parents continue to support the language acquisition of their children. For example, Brown and Bellugi (1964) describe the use of expansion in the mother's speech to her child in their longitudinal study of two children, Adam and Eve and their mothers. The mothers each preserved the order of words used by the child while adding conjunctions and prepositions omitted by the child. For example, when Adam said, "There go one," his mother retained his word order, but expanded it by filling in omitted words. Her reply, "Yes, there goes one" is reflective of expansion (p. 140).

## Parental Prompting

Another type of interchange between parent and child discovered by Brown and Bellugi (1964) is prompting. In prompting, the parent may ask a question, "What do you want?" When the child does not respond, the parent may say, "You want what?" as a sentence completion item. Verbal interactions such as this might lead the child to learn how to make transformations that invert the subject and auxiliary as they learn to verbally communicate.

## Early Imitation of Nouns, Verbs and Adjectives

Brown and Bellugi (1964) further described word forms which children are most likely to imitate from their parents. The selection is not random but highly selective consisting of predominately nouns, verbs, and adjectives. For example, the sentence "Fraser will be unhappy," is translated, "Fraser unhappy". According to the researchers, nouns, verbs, and adjectives may be generalized as characteristic forms most likely to be retained from adult speech.

## Parental Repetition

Repetition has been found to be a feature which mothers use when talking with young children acquiring language. Snow (1971) found in her study of 24 white, middle-class mothers talking to their two-year-olds and the same mothers talking to ten-year-olds that repetitions occured more to two-year-olds than to ten-year-olds. Repetition occurred most frequently where it seemed unreasonable to expect the child to understand what was said in the first place.

Moerk (1985) suggests that mothers teach strategies to handle linguistic input. For example, in his analysis of verbal interactions between two mothers and their children between 18 and 35 months old, he found that several forms of repetition exist. Besides the use of simple repetitions, parents often use repetitions with substitution of items and partial repetitions with the addition of new items. By the mother using self-repetition and imitation of the child's utterances, she modeled the strategy of imitation for the child.

Phillips (1970) also found that mothers repeated themselves a great deal to eight-month-old babies even when their speech was adult-like in syntax and vocabulary. His cross-sectional study of mother's speech to children and adults recorded the speech of 30 middle-class, white mothers under two conditions; speaking to the experimenter, A-speech, and speaking to their children, B-speech. The children were 8 months, 18 months, or 28 months old. Six syntax measures and four vocabulary measures were used to compare B-speech with A-speech and to compare B-speech spoken to children of different ages. The findings revealed that the mother spoke in a more adult fashion as the child increased in age. Differences existed in the number of words per utterance the mothers used in correlation with the increase in age of the child. In addition, an increase in the number of verbs, modifiers, and function words per utterance in relation to the age of the child was also observed.

In a replication of the original study, Phillips (1973) studied all female subjects, finding identical average value to mothers'

speech to girls as mothers' speech to boys of comparable age. This study also supported the belief that mothers adjust the complexity of their speech to the developmental level of the child. It further suggest that mothers do not exhibit differences in the manner in which they speak to children of different sex.

**Object Labeling**

Additional findings by Phillips (1973) reveal that the number of different words used relative to the total number of words used is much smaller in speech to young children than in speech to adults. More specifically, the words used are more often nouns used as labels to refer to objects that are physically present.

Mervis and Mervis (1982) examined the manner in which ten mothers of thirteen-and-a-half-month-olds labeled toys with their children in a natural play setting and how they labeled them while talking with an adult. The results of the study support the hypothesis that mothers label objects at the basic level of their listener. When talking to another adult, mothers virtually always labeled the stimuli with adult-basic names.

**Paralingual Features of Adult Speech**

In their study of 16 male and 16 female adults, half of who were married with children and half of whom had never married and never had children, Jacobson, Boersman, Fields, and Olson (1983) observed the tendency to raise and vary the pitch of one's voice when addressing an infant or small child. Through the use of a sound spectograph, frequency was observed in the language subjects used while talking with adults and later with child subjects. Regardless

of whether a subject was a parent or not, all adults raised the frequency of their voice when talking with infants and small children. The study implies that these modifications in vocal frequency may be attributed either to a biologically based propensity in the adult speaker or to attentional feedback from the infant or small child.

**Nurturance of Early Language by Fathers, Mothers and Siblings**

The study by Rondal (1980) addressed the question of whether there are differences in maternal and paternal speech to young children. Five French-speaking middle class working couples, with male only children between the age of one-year six months to three-years-old, were studied at home while interacting verbally in three situations. Subjects were recorded separately while engaged in free-play and story-telling and together in a family meal situation. The results indicate that paternal speech displays the same simplification process usually found in maternal speech to young children. From this study it would appear that fathers' and mothers' speech addressed to children are equally well-suited to nurturance of language in their young children.

More recently, Papousek, Papousek, & Haskel (1987) studied vocal dialogues of three-month-old infants with their mothers and fathers. Speech samples were recorded and analyzed for syntactic and melodic features. The results of this study support the notion that there are structural similarities between maternal and paternal speech to infants. Such "baby talk" supports the claim that there is an intuitive nature for talking to prelingual infants which is

univeral across sex. It further favors the assumption that baby talk is a nurturing aspect for infant communication development.

Investigations into the social bases of language development have concentrated mainly on the interactions that young children experience with their mothers. In the studies previously examined, several comparative studies have been conducted in order to see if differences exist between maternal and paternal speech with infants and toddlers. Less research attention has been directed toward the verbal interactions which occur between siblings.

The investigation of older siblings as conversational partners by Hoff-Ginsberg & Krueger (1991) looked at child-directed speech by three groups of older speakers. Characteristics generally thought to be supportive of young children's language development were analyzed.

The study included 18 children between one-and-a half to three-years of age. The subjects were videotaped in dyadic interaction with their four or five-year-old sibling, their seven or eight-year-old sibling, and their mothers. The results indicate that mothers adapted their speech for the child more than either of the other groups of siblings. However, the seven and eight-year-old siblings were more supportive conversational partners than were the four and five-year-old siblings. An implication from this study suggests that children in care-giving settings must have a sufficient amount of time spent in dyadic interaction with an adult, rather than just with other children.

## Additional Nurturing Within the Home Setting

According to Lemish and Rice (1984), the ideal language learning environment may be defined as "a shared activity with an adult in which the adult gives linguistic expression to just those meanings in the situation which the child is capable of intending, and to which they are at that moment paying attention" (p. 4). As evidence in this study reveal, literature documents the phenomenon of a simplified speech register directed toward children. Adults tend to adjust their speech to young children in a manner that corresponds to children's limited linguistic abilities. Television viewing designed for young children, such as "Mr. Rogers' Neighborhood", "Sesame Street" and "Electric Company", is an activity which also includes simplified dialogue.

## Television: A Picture Book Experience

Lemish and Rice (1984) observed mother-child dyads consisting of 16 children from six-and-a-half to 29-and-a-half months old as they viewed television over a six to eight month period. The interactions which took place resembled that of reading a picture book together. Categorizations concluded from the results reveal verbal behavior which included designating through attention calling, labeling, correcting, and requesting a label; questioning; and parent responses to the child involving repetition, acknowledgement, directing behavior, and answering questions. Implications from this study suggest a viewing context for children at the age of early language acquisition.

**Television: A Model of Child-directed Language**

In a later study in which Rice worked with Haight (1985), grammatical analysis of dialogue from samples of "Sesame Street" and "Mr. Rogers' Neighborhood" were coded for grammar, content, and discourse. The findings indicate that the programs' dialogue was appropriate for young viewers. Samples from both programs showed adjustments in language like those made by adults speaking to young children. The mean length of utterance was comparable to that of adults speaking to children. In addition, the sentence structure was simplified, a high proportion of utterances refered to immediately visible topics or objects, and frequent repetitions were made using key words. Overall, the dialogue of educational programs for children follows the adjustments found in adult's child-directed language.

In conclusion, the findings of this study reveal that speech to the child is significantly different from speech to an adult. Language and communication techniques used by the adult when directed to an infant or young child include intuitive aspects as well as paralingual features. Some features which take place during infant-adult interactions include coaction, alternation, prompting, imitation, repetition, and labeling. These features tend to change in nature as the child acquires language and may also include expansion of utterances as the child begins to talk. There is reason to believe that child speech is influenced by and may influence the speech of those communicating with him.

The study also reveals that not only mothers, but fathers and

adults in general contribute to the language acquisiton of young children through the use of features which simplify language. Interactions with older siblings may also contribute to language acquisition but not as effectively as adult interactions.

Implications of this study suggest that infants and toddlers should spend plenty of time each day interacting with adults. This implication is especially important to the care setting in which interaction may take place between same age children but not as frequently between the adult and child on a direct basis. An understanding of the features of verbal interaction which initiate infant verbal response may prompt adults to interact with infants and toddlers in a more direct manner. In addition, adult-child interactions which take place while viewing childrens' television programs may also nurture early language acquisition. The viewing of such programs by children without adult interaction may also nurture early language acquisition however, not as much as when viewing and interacting with an adult. Therefore, adults would not want to see placing a child in front of the television as a means for language acquisition.

Future research is necessary in order to designate if there are particular times or ages in which certain language features are more beneficial than others for initiating verbal responses from infants and toddlers. Additional research might investigate the existence of a series of stages of verbal interactions which take place in order to lead to language acquisition by infants and toddlers.

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